Beyond 2030

The role of science, technology and innovation in achieving the SDGs

Interviews with the UN 10-Member Group

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Advancing human progress together

Drawing on interviews with members of the United Nations 10-Member Group on STI for SDGs, this report illustrates how the SDGs have reshaped development paradigms and presents a forward-looking vision for a post-2030 agenda that more effectively leverages science, technology, and innovation.

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Executive summary

This report offers strategic guidance to policymakers, researchers, and stakeholders committed to advancing the SDGs and preparing for a dynamic post-2030 sustainability era, emphasizing that realizing the framework's full potential requires coordinated efforts to deepen STI integration, strengthen governance, and engage citizens as active partners in shaping a just and resilient future.

Science, technology, and innovation (STI) have emerged as powerful enablers of SDG progress, offering scalable solutions, data-driven insights, and transformative tools to address complex global issues. The SDG framework has made meaningful progress in driving global sustainability, but its momentum has been challenged by major disruptions such as the COVID-19 pandemic, ongoing conflicts, increased defence spending, and reductions in international aid. These challenges have placed additional strain on efforts to achieve the long-term goals.

This report examines the relevance and future evolution of the SDG framework beyond 2030, focusing on the critical role of science, technology, and innovation (STI) in driving sustainable development.

Drawing on insights from interviews with members of the United Nations 10-Member Group on STI for SDGs, this report highlights the transformative impact of the SDGs in reframing development paradigms and integrating social, environmental, and economic dimensions.

Key findings reveal that high-level government integration of the SDGs into research and innovation policies significantly enhances momentum and impact. STI plays a central role in advancing critical targets, especially in industry, urban development, and the energy transition. However, significant challenges and gaps remain, including the need for robust global research infrastructure, more transparent and effective science communication and use of science, fragmented and reduced international cooperation, and greater engagement from civil society to support innovation and drive long-term transformation and resilience.

Emerging technologies such as artificial intelligence and digitalization offer transformative potential for the SDG agenda, but also risk exacerbating environmental problems and inequalities if not equitably managed. The report underscores the importance of balancing technological innovation with social science insights to influence behaviours, build public trust, and ensure inclusive progress towards sustainable development.

Looking beyond 2030, the report recommends that the SDG framework evolve into a more focused, accountable, and adaptable agenda aligned with a 2050 vision. Prioritization of urgent goals — such as health, education, and gender equality — alongside enhanced measurement capabilities and regional readiness assessments, will be essential. The 10-Member Group also hope that a future 2050 agenda would recognize planetary boundaries, the safe and just thresholds that will safeguard both livelihoods and the planet. Strengthening international research collaborations, investing in sustainability-focused R&D, expanding education and skills development, and fostering science literacy and trust are critical pillars for future success.

In conclusion, the SDG framework remains an indispensable blueprint for global sustainable development and should be continued. To realize its full potential, coordinated efforts are needed to deepen STI integration, enhance governance, and engage citizens as active partners in shaping a just and resilient future. This report offers strategic guidance to policymakers, researchers, and stakeholders committed to advancing the SDGs and preparing for a dynamic post-2030 sustainability era.

Introduction

Today, we are living in a period of accelerating global challenges. The Sustainable Development Goals (SDGs) have outlined a future that seeks to reverse climate change, reduce poverty and ensure access to minimum resources, close gaps of inequalities and estanlish a sustainable and just world for current and future generations. Yet the pathways to achieving these goals are increasingly complex, demanding more dynamic, evidence-based, and innovation-driven approaches.

Now, with a little over four years to the SDG deadline of 2030, we see climate change is accelerating faster than expected[1], conflicts are reversing development gains, and economic instability threatens to widen inequalities. According to the latest Sustainable Development Goals Report[2], current progress is falling short of what is required to achieve the 2030 agenda and its underlying 169 targets. The question for many becomes, what happens to the SDG framework beyond 2030?

This whitepaper explores the relevance of the SDG framework beyond 2030 specifically through the lens of how science, technology, and innovation (STI) can shape, support, and, where necessary, reimagine the SDG agenda. It asks critical questions about whether the SDG framework has been sufficient — and agile enough — to meet the growing and shifting demands of society. In doing so, the report outlines both the opportunities and systemic barriers that influence how STI could be mobilized at scale for global good. While STI is only one part of the wider transformational changes that are required to achieve the 2030 agenda, the report offers recommendations for strengthening its role in delivering a more sustainable, inclusive future.

1 IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001

2 UN DESA. 2024. The Sustainable Development Goals Report 2024 — June 2024. New York, USA: UN DESA. © UN DESA. https://unstats.un.org/sdgs/report/2024/.

Background to the 10-Member Group

The 10-Member Group, appointed by the United Nations Secretary-General, serves as a high-level advisory body to guide the UN's work on science, technology, and innovation (STI) in support of the Sustainable Development Goals (SDGs)[3]. Comprising experts from diverse disciplines and geographies, the group plays a central role in shaping the UN's STI for SDGs roadmap by providing strategic advice, mobilizing expertise, and fostering global collaboration. Its primary responsibilities include identifying state-of-the-art science and emerging trends and advising on policies that can accelerate the contribution of science and technology to sustainable development.

Originally established in 2016, the 10-Member Group help to bridge the gap between scientific research, technological innovation, and policy implementation at the global level. Experts join and rotate off the committee in two-year terms, unless extended. From December 2024 to March 2025, we conducted 10 interviews with current or past members of the United Nations 10-Member Group on Science, Technology, and Innovation (STI) for the Sustainable Development Goals (SDGs). All participation was voluntary, and responses have been anonymised. The focus of the discussion and questions were primarily to gather expert insights based on the interviewees' expertise and experience in their country or region as well their experience in academia, higher education and research policy. The individuals interviewed included:

- **Carlos Henrique Brito Cruz OBE (Brazil)** — Senior Vice-President, Research Networks, Elsevier (Co-Chair)
- **Joyeeta Gupta (Netherlands and India)** — Professor of Environment and Development, University of Amsterdam; and Professor, IHE Delft Institute for Water Education (Co-Chair)
- **Magnus Andersson (Sweden)** — Associate Professor of Economic Geography, Department for Urban Studies, Malmö University
- **Vladimir Crnojević (Serbia)** — Founder and Director of BioSense Institute; Professor in Computer Science, University of Novi Sad
- **Xavier Estico (Seychelles)** — Founder of the Seychelles Centre for Innovation and Sustainable Development
- **Motoko Kotani (Japan)** — Executive Vice President for Research, Tohoku University; Vice President, International Science Council
- **Aree Moon (Republic of Korea)** — President, Korea Foundation for Women in Science, Engineering and Technology; Vice President, The Korean Academy of Science and Technology
- **Cherry Murray (United States)** — Professor of Physics at the University of Arizona, Deputy Director for Research at Biosphere2
- **Catherine Ngila (Kenya)** — Executive Director, African Foundation for Women & Youth in Education, Sciences, Technology and Innovation
- **Karen Scrivener (United Kingdom)** — Professor, Laboratory of Construction Materials, École Polytechnique Fédérale de Lausanne; Founder, Nanocem

3 United Nations. (n.d.). United Nations Group of ten high-level representatives of civil society, private sector and scientific community to promote science, Technology and Innovation for the sdgs (10-member-group) | Department of Economic and Social Affairs. United Nations. https://sdgs.un.org/tfm/ten-member-group

Methodology

Hypothesis

The SDG goals and targets adopted by all 192 United Nations members back in 2015 represented an ambitious and transformational vision of a sustainable future. The framework was designed to help guide decisions and prioritization over the following fifteen years as member states worked to implement the 2030 Agenda in their respective countries, regions and globally. As the 2030 deadline for the SDGs fast approaches, it is now time to reflect on progress and setbacks and to consider the future of the 2030 agenda. This raises a fundamental question: How should the SDG framework evolve beyond 2030 to lead to faster advancement?

Additionally, to date we have seen how science, technology and innovation (STI) help to drive progress in areas such as climate change, energy, education, clean water and sanitation, disaster and risk reduction. Although STI solutions are only one part of the urgent transformational change still needed, this raises a secondary question: how can the SDGs better leverage the potential of science, technology and innovation (STI) to accelerate progress now and in any subsequent frameworks post 2030?

Research questions

Each interview was semi structured with responses collected in personal interviews with additional material and references provided on an ad hoc basis after the interview. Each participant was asked to respond to four research questions with their own expert opinion and/or their experience in their country or region. The questions included:

Question 1:
In your opinion, how important is the SDG framework (as a general concept) in your country/and or region?

Question 2:
How do you evaluate the role of scientific advancement in helping to achieve sustainability/SDGs?

Question 3:
In what ways can the framework of the SDGs be adapted or expanded post 2030 to better integrate scientific advancements and achieve long term sustainability objectives?

Question 4:
What is your vision for how science and technology will shape the global sustainability agenda in the decades following 2030, and what steps should we take now to achieve that vision?

Results

Key insights from the Beyond 2030 report, drawing on in-depth interviews with members of the UN's 10-Member Group on Science, Technology, and Innovation, highlighting perspectives on the current state and future evolution of the Sustainable Development Goals through the lens of Science, Technology and Innovation.

The current landscape: the impact of the SDG framework

These insights stem from the first interview question: *"In your opinion, how important is the SDG framework (as a general concept) in your country and/or region?"*

Insight 1:

From endless growth to finite realities: the SDGs have helped reframe our collective understanding of resources

Reflecting on the insights gathered from the interviews, it was viewed that the SDG framework has implicitly played a pivotal role in reinforcing the understanding that planetary resources (e.g., minerals and metals) and sinks (e.g., the system's ability to absorb wastes) are finite, and that systems (e.g., climate) are fragile, requiring development to operate within these limits. Drawing on foundational ideas from the Club of Rome in 1972, interviewees recognized how the SDGs have accelerated the notion that sustainability should lead development, emphasizing the interconnectedness of actions across scales — from local municipalities to the global arena.

Many noted that the SDGs have successfully broadened the concept of sustainable development to encompass social, environmental, and economic dimensions in an integrated manner.

However, several interviewees observed that prior to — and even shortly after — the adoption of the SDGs, sustainability efforts were often fragmented, with many regions approaching it as a narrow environmental issue or limiting it to specific sectors. This siloed perspective was seen as a barrier to fully embracing and implementing the holistic ambitions of the SDGs.

A further insight emerging from the discussions is that while the SDGs articulate a comprehensive vision, the framework still places considerable emphasis on economic growth while failing to explicitly mention planetary boundaries. This emphasis, interviewees suggested, may inadvertently overshadow the critical need to rethink growth. They reflected that truly advancing inclusive development through the SDGs requires governance approaches that are coherent, equitable, and capable of challenging unequal power relations. Crucially, this means developed countries must be willing to adjust their behaviors and contribute resources fairly.

"In my view, the SDG framework is the first politically adopted consensus document to combine social, economic, and environmental issues in a single comprehensive framework."

"The concept of sustainable development has often been perceived primarily as an environmental issue, rather than as a holistic matter encompassing society, the economy, and the environment."

"I'm pleased with the SDGs, recognizing that their inherent contradictions reflect the complex, inclusive negotiations between diverse countries. The framework's strength lies in fostering unprecedented collaboration across traditional divides, providing a vital global platform that, while imperfect, offers a solid foundation for future improvement."

The paradigm shift was also observed in how the framework has simplified the complex challenges facing society by articulating a common vision, language, and quantifiable targets through the 17 goals and 169 underlying targets. This clear articulation has enabled a universal understanding of *"moving in the right direction"* with goals applicable to all countries and regions. Interviewees highlighted that the SDG framework has the potential to continually catalyse collective action among scholars, policymakers, and civil society, presenting an opportunity to harness this momentum to demand accountability and foster transformative change grounded in the principles of inclusive development — even as the framework continues to evolve. Within academia, this shift has also implicitly influenced paradigms around growth and development, affecting not only how these topics are taught but also shaping the expectations and awareness of students on campus.

"I can no longer teach economics using the classic textbooks because today's students are well-informed and challenge outdated views. Influenced by figures like Johan Rockström and Greta Thunberg, they demand a deeper understanding of sustainability, reflecting a broader shift in how academia approaches these critical issues."

Reinforcing the SDGs within safe and just thresholds

This Science-Policy Brief for the Multistakeholder Forum on Science, Technology and Innovation for the SDGs (May 2024) argues that achieving the environmental SDGs requires integrating safe Earth system thresholds with just social thresholds, supported by minimum-access targets, systemic transformations, equitable resource sharing, and sustainable technology.

Insight 2:

Slow traction: building momentum and awareness for the SDG framework has differed between countries and regions

The interviews revealed that while some countries were early adopters of the SDG's holistic agenda, other countries and regions were slower to recognize and embrace the SDG agenda.

One area that was highlighted has been the divide between the adoption of the SDGs between the Global North and Global South. This was felt that in part due to the millennium goals, the predecessor to the SDGs, being primarily focused on health and the developing world. As such there was an assumption mainly by Global North countries that the SDGs were not relevant or applicable in their own societies. The SDGs were seen by the interviewees as a *"wakeup call"* enabling a wider dialogue about sustainable development and its respective goals.

Global North countries thought they had achieved everything. They didn't really need to do the SDGs and didn't even discuss it within their own countries."

"Clean water is something that people in Europe and the US don't really talk much about, because it's considered more or less a solved problem. But in reality, it isn't. We know our water is polluted with PFAS and other chemicals — it's far from solved."

"There has been a major shift because the SDGs have put these issues on the global agenda and in our everyday lives. For example, access to a toilet is no longer something you shouldn't discuss at the dining table."

Awareness was also seen to grow because the SDG framework represents a *"global movement"* that had mobilized political consensus and was not bound by the political agenda of any country. This was helped by structural implementation of the framework either through treaties such as the Paris Agreement, or via the United Nations processes, that required countries to share progress. As such all UN-member states established programs for the SDGs that have helped to align national priorities.

"The universality of the framework means it is not just important for developed or less developed countries individually to achieve the targets; it is a universal goal for all of humankind, aimed at creating a better world."

"All countries in the world have their own SDG programs. Some are progressing faster, some are more innovative, and others less so, but it remains a global movement that everyone has embraced."

For the academic community, some critiqued the SDGs as reflecting a top-down agenda while others noted that the SDGs reflected decades of political discussion in the international arena. In part some of the slow momentum at the beginning was thought to be attributed to the SDGs reflecting pre-existing concerns. For example, issues such as access to clean water, poverty alleviation and environmental sustainability were already actively being addressed in research, but not in an integrated and indivisible manner as was required by the SDGs.

"Universities were not very aware of the SDGs, they continued conducting research as they always had."

"On one hand, the SDGs formalized certain targets; on the other hand, they reflected existing goals that were already relevant to improving human lives."

Insight 3:

Imperfect but essential: the SDGs are still needed to help advance human life

There was recognition by multiple interviewees that despite unprecedented disruptions, such as the COVID 19 pandemic, artificial intelligence and digital revolutions, the framework remains relevant and aspirational for today's society. In this context, the SDG framework was seen as a useful structural tool for guiding sustainable development efforts and shaping action plans that encompass environmental, social and economic dimensions.

"The SDG framework is more relevant in my region today."

"The 2015 blueprint was a brilliant idea, enabling countries to collaborate in achieving the SDGs."

"Without the SDG framework, countries would have pursued their own agendas, but the SDGs unite us all."

Yet, the interviews also revealed that the framework is not viewed as *"perfect."* Recognition that while progress against the specific targets remains slow, the SDGs should be viewed as *"aspirational"* and a work in progress. The main benefit for the framework is that it has helped to shift mindsets. For example:

"The SDGs represent an ongoing journey and goal that we must continue striving toward, and while progress is being made, no country has yet achieved all the targets."

"The framework has successfully shifted mindsets, transformed national planning approaches, strengthened collaboration, and emphasized the importance of multilateralism."

The interviews also supplied many examples of SDG related progress that help to reinforce the robustness, the universality and relevance of the continuation of the framework. For example:

"We began with the SDGs, and as progress builds in that direction, we start to see tangible benefits that create a positive chain reaction, motivating continued efforts to do the right thing."

"Have we improved access to education? I would say yes. What about gender equality? We now see more girls attending school and reaching minimum standards, along with significant gains in girls and women entering science and technology."

SDG drivers for science, technology and innovation

These insights stem from the conversation generated in the interviews around the second interview question: *"How do you evaluate the role of scientific advancement in helping to achieve sustainability/SDGs?"*

Overall, there was consensus across all interviews of the importance of science, technology and innovation (STI) in progressing the SDG agenda. It was felt that STI was at the heart of *"everything"* and played a significant role in advancing specific SDG targets, particularly in the areas of industry, agriculture, and climate action. Interviewees also noted that many of SDGs can be addressed with existing technologies and governance practices and that the role of STI to advance the SDG agenda needs to be strengthened to ensure that the politics of decision making is also accounted for in science to promote the transformational change required to accelerate progress

Insight 4:

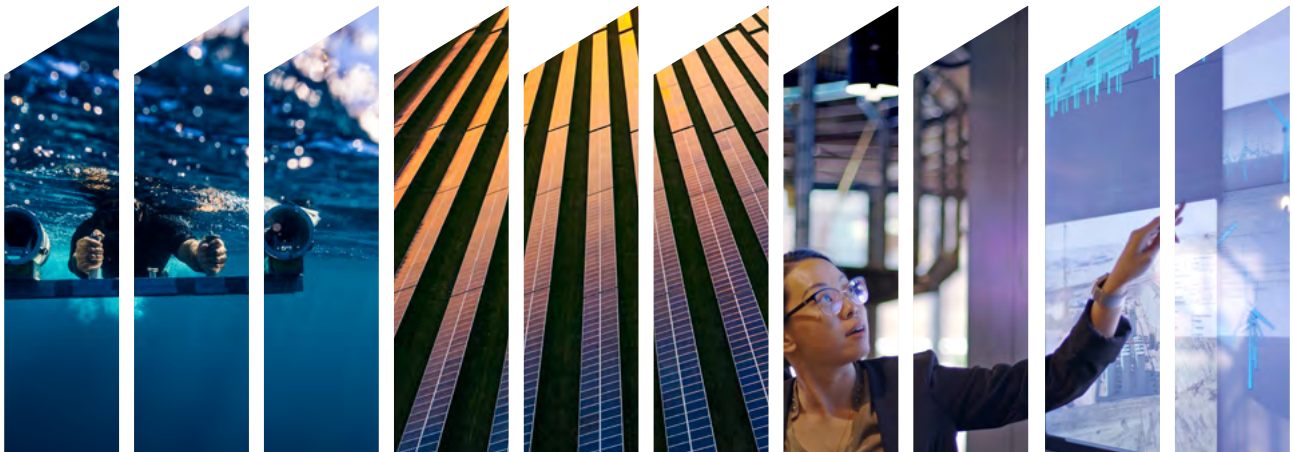
High level integration of the SDG agenda by governments drives awareness and adoption of the SDGs into research policy

A common thread across countries and regions that were early SDG adopters was the high degree of integration of the SDG framework into research policy. In most cases, this was enabled by top level support and leadership for example from a Prime Minister, President or high-ranking government officials. Often this led to national implementation programs aligned with the SDG agenda that in turn helped to align STI priorities. In other cases, the lack of high-level government support resulted in low level SDG awareness and integration from the academic community.

For example, in one country, the alignment of the science, technology and innovation national plan with the SDG agenda started back in 2015 and has since developed several national programmes to help with implementation. In another example, the transfer of the SDG implementation to the office for Government Policy coordination, under the Prime Minister helped to stimulate the momentum needed to formulate a national basic strategy for sustainable development. Contrasted with another example where there has been a lack of top-level governmental support and as such the country sees low levels of SDG national focus that has not helped to drive momentum. Instead, in this case, progress on SDG themes were seen as more grassroots or concentrating on key themes or technologies.

"In 2015, we decided to focus on leveraging science and technology to build a better society. Our current plan emphasizes implementation, closely aligning with the SDG agenda."

"Today, both national and local governments are required to develop and execute sustainable development plans, marking a significant shift toward a more structured and institutionalized approach to raising awareness and advancing SDG implementation."



Governance was seen a key driver of STI adoption and integration of the SDG agenda across multiple countries and regions. This requires a better science of governance processes. By establishing national or regional SDG plans and initiatives, it was seen to *"accelerate technological innovation"* and align institutional efforts. While the interviewees' acknowledged the SDGs are not a key driver of STI per sé, but that by establishing a governance structure, STI was more likely to align its activities to the framework. This was seen to be beneficial to increasing awareness of SDG progress and the role of STI more broadly in society. It was also suggested that SDG policy integration and STI support was a way for individual countries to represent themselves favourably on an international stage. The UN mechanism for the SDGs, such as the UN General Assembly requires countries to formally report on progress, and as such every UN member state has an SDG action plan. In this way, interviewees suggested that there was a certain amount of *"peer pressure"* that has helped drive further SDG integration and implementation plans as *"every single country must be seen to be achieving the SDGs."* STI was seen to be a crucial enabler for such profiling:

"By emphasizing that we cannot eliminate hunger or address fundamental societal well-being without science and technology, we can compel governments to integrate these fields into their planning."

"If I am a Vice Chancellor, I must assess how my university contributes to the SDGs. For example, evaluating our strengths in energy research and leadership within the engineering sector."

There were also multiple examples shared where individual researchers also helped their institution, or their national programs understand their SDG related activity as well:

"When the Ministry required the entire publicly funded academic community to align their results with the SDG framework, it was a small effort for researchers but a significant achievement for the government, the country, and the public."

"It wasn't always the case, but now the academic community is increasingly aware and engaged. The SDGs are a common topic at meetings and conferences worldwide."

Governance

Governance was identified as a key driver in the adoption of STI and the integration of the SDG agenda across various countries and regions.

193 countries

The UN General Assembly requires 193 countries to formally report on SDG progress — creating global pressure to show progress.

Insight 5:

The public dimension of driving STI: trust, engagement and shaping the research agenda

One key driver of STI identified in the interviews was the role of the public and their interaction with, and experience of, research and technology. Many interviewees observed that the public often holds high expectations for science to deliver the solutions needed to achieve the SDGs. However, public trust in the reliability of science — and its understanding of scientific processes — significantly affects how effective these STI solutions can be. For example, while vaccines have the power to eliminate disease, their effectiveness depends on public confidence in their safety. Without that trust, even the most advanced scientific solutions may fail to achieve their intended impact. This requires life-long education and awareness building of the public.

The interviews also highlighted the role of the public in shaping the research agenda. There was growing recognition that aligning the development of STI with societal priorities is essential and that public trust and support of science and research significantly influence how STI is funded, particularly through public investment. This was seen to have contributed to a shift toward mission-driven science. Institutions acknowledged the importance of striking a balance — responding to public concerns while maintaining scientific integrity and direction. At the same time, it was noted that many people feel disconnected from science in their daily lives. The global pandemic was cited as a powerful example of how increased public exposure to STI can build understanding and trust in its potential benefits. Moreover, the rise of misinformation, malinformation and disinformation, spread through social media has confused the public. Furthermore, caution was also urged: alongside communicating the promise of new technologies, it is equally important to explain potential trade-offs and unintended consequences and the need for precautionary approaches.

"Without trust from society and the world, science cannot thrive or receive the support it needs."

"Science for its own sake holds academic value, but its reach into the broader public remains limited."

"While science and technology can sometimes raise concerns and fears, there are also high public expectations for them to solve pressing issues."

"The COVID pandemic exposed many people to the potential of technology, demonstrating its power to reach schools and students in ways previously unimaginable."

Building public trust

The public plays an important role in shaping the research agenda, underscoring the need to foster trust, promote understanding of trade-offs, and strengthen education in this area.

Insight 6:

Shared resources needed for a shared future: SDGs drive collaborations with a common need for data

Collaboration was identified as a key driver for the effective use of science, technology, and innovation (STI) in advancing the SDG agenda. This was attributed partly to the SDG target-setting process itself — a multi-stakeholder, democratic effort — and to the universal scope of the goals and the risks of insufficient progress, for example on climate change, affecting many nations simultaneously. Collaboration was also viewed as critical for building the global research infrastructure needed to monitor and accelerate SDG related progress. For example, understanding and protecting oceans (SDG 14) requires cross-border cooperation, underscoring the universal nature of the SDGs. As such data sharing and the development of global datasets that monitor changes in the oceans are important foundations for effective collaborations in this SDG area. However, uneven data availability can exacerbate inequalities and inappropriate solutions. Economic factors also played a role, as major infrastructure — such as satellites — was often too costly for individual countries to pursue alone. Overall, shared resources and coordinated efforts were seen as vital to advancing the SDGs through STI.

"It was also the first time, in setting the SDG targets, that countries negotiated not individually but as groups, some combining Global North and South."

"All nations bordering the Indian Ocean must collaborate and share resources to effectively protect our oceans and achieve SDG 14."

"Our goal should be to provide the global community with comprehensive data that monitors both progress and setbacks."

Effective collaboration was seen as an exchange of both knowledge and resources, occurring between institutions, countries, or regions. Open Science, Open data and the infrastructures to support them should be encouraged. However, some interviewees noted a perceived bias in how collaborations involving the Global South were viewed.

"Many often claim that technology advancements are too complex for the Global South or that the necessary infrastructure is lacking. But, for example, ethanol has been used in cars here for the past 50 years, which shifts the narrative entirely."

Shared resources, shared progress

Driving progress requires shared resources and coordinated efforts, with international collaboration playing a critical role in advancing global goals.

Empowering SDG research via global research funding partnerships

This Science-Policy Brief for the Multistakeholder Forum on Science, Technology and Innovation for the SDGs (May 2024) highlights how Research Funding Organizations (RFOs) worldwide — such as South Africa's NRF, Brazil's FAPESP, and China's NSFC — are strategically supporting SDG-related research, and calls for stronger, two-way partnerships with the UN to enhance funding, collaboration intensity, and knowledge exchange based on bibliometric evidence of RFO contributions to the SDGs.

Insight 7:

Scaling for impact: funding aligned with SDGs

Funding has long been recognised as a key driver for STI and the interviews confirmed for research and innovations linked to the SDG framework this was still important. Balanced funding across disciplines and for interdisciplinary research was seen to be an enabler to continue progress research and scale solutions that would make a tangible impact on society. Interviewees pointed to the need to have a *"good environment"* that better leverages knowledge transfer between academia and industry and help *"scale up"* solutions. However, when funding is overly concentrated in a single area (for example, prioritizing AI technologies at the expense of other fields), it can limit opportunities for the kind of interdisciplinary research that is essential to robust and well-rounded science. To effectively leverage STI for the SDGs, interviewees point out that efforts must be mission-driven and solution-oriented, while recognizing that sustained investment in basic science remains essential for long-term discovery and foundational progress.

"Money drives action — funding mechanisms fundamentally create change."

"Many scientists believe that conducting research alone is enough for progress, but it's much more complex than that."

"Science plays a crucial role in raising awareness, and we must also engage industry, because that is where the money is and that is a driver for scaling solutions."

"An academic research system alone is insufficient; a robust industrial research and development ecosystem is essential."

Boosting investment in SDG research

The UN 10-Member Group's call for greater investment in SDG-aligned research was adopted by the UN High-Level Political Forum, which recommended governments increase spending on basic and applied research by 3.7% between 2025 and 2029.

Insight 8:

The potential for the technology revolution, digitalization and AI

A common theme raised in all interviews was centred around the transformative potential of digitalization and artificial intelligence. For the research ecosystem, interviewees shared their thoughts on how technology can help to improve efficiencies and drive new opportunities. Increased computing power was seen as a potential key driver in many SDG related domains such as smart farming, ocean mapping and energy efficiencies. The increased potential for generating new types of data, and new method of multi-criteria evaluation analysis, was thought to be crucial for research insights but also to help develop the SDG targets and monitor progress. Additionally, with increased rich datasets, sharing this via cloud technology, was seen to be a potential way to increase collaborations, especially in the Global South where resources might have been a barrier. The interviewees also expressed caution around the potential of AI as large language models demand significant resources and, without careful design and governance, could exacerbate environmental and economic inequalities, particularly in developing economies. The interviewees also felt that the results of AI may also produce limited or misleading outputs if data gaps and qualitative insights are overlooked. In addition, shifts in employment and the concentration of benefits among those controlling these systems highlight the need for careful governance and inclusive policies.

"What can we expect? An increase in robotic activities, greater efficiencies, and vast data collection enabling data-driven decisions. This will drive real progress."

"With cloud computing, I no longer need to invite a researcher from a developing country to my university to access physical infrastructure; collaboration can happen remotely and more inclusively."

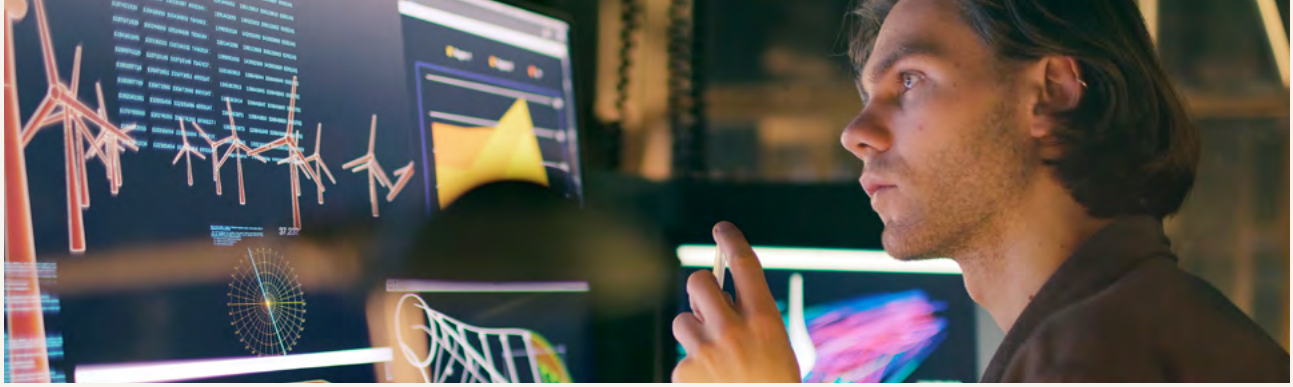
At the same time, some interviewees felt it was difficult to predict the future given the rapid scale and change of digital/AI and some raised concerns around how technology implementation may expand existing inequalities, for example in gender equality, that could further delay some SDG targets and goals.

"Data shows that women's representation and participation in AI remain particularly low, and without proactive intervention, women risk being excluded from AI-driven job markets."

"Ensuring that the benefits of AI technology are distributed equitably across countries and social groups is essential for harnessing AI as a tool for sustainable development."

AI and digitalization: promise and precaution

Digitalization and AI offer transformative efficiencies and new research insights, but careful governance is needed to avoid reinforcing or deepening existing inequalities.



SDG gaps and challenges

Insight 9:

Beyond solutions: the need for an integrated approach to innovation between academia and industry

While STI was considered critical for the SDG framework, the interviews also emphasized that STI is just one element in a wider ecosystem that is needed to accelerate the solutions needed to drive progress. Examples shared, such as the transition to technologies such as LED lighting and biofuels, were used to demonstrate the impact of scientific advancements when coupled with market mechanisms and industry participation. Here the emphasis was placed on the emerging need to better translate scientific research into practical applications and business models.

"When you have to scale up, you need big business."

"It's a system. Universities don't simply create a blueprint and hand it off for manufacturing. If a solution requires scientific input from academia, it also needs a viable business model from the commercial sector."

In this respect, the interviews also revealed potential differences in how institutions approach technology transfer within the academic setting. It was suggested that perhaps cultural differences exist between how the Global North and Global South institutions interact with industry. On the industry side, there was also recognition that while they may work on areas related to SDGs, in general their focus is on scalability of the idea and sustainable business models, meaning they are largely unaware that they are contributing to the SDG agenda. By enabling greater dialogue, it was thought it could lead to greater efficiencies in collaborating across sectors on specific SDGs.

While business models often prioritize individual or market-driven approaches, there is an opportunity to better integrate considerations for vulnerable populations. The interviews suggest that fostering societal readiness, alongside the responsible application of technology and supportive redistributive mechanisms, can help ensure that everyone — including those most disadvantaged — can participate in and benefit from the transformation needed to achieve the SDGs.

"In the Global South, research is often seen as the domain of universities, with less emphasis on involving companies who engage and use research."

"Many companies develop solutions based on R&D without realizing they are contributing to the SDGs; their focus is typically on the business case rather than optimizing energy use."

"We need to strengthen collaboration with industry and the private sector, as they drive investment, lead R&D, and are key to revolutionizing technologies like AI and green hydrogen, which are crucial for advancing the SDGs."

Insight 10:

Technology alone won't drive progress; the case for embedding social sciences

Throughout the interviews, it was widely acknowledged that to advance the SDG agenda, more is needed than just technology breakthroughs. While science was seen as providing the tools to develop clean energy and health innovations, social sciences were seen as critical for understanding human behaviour, governance systems and cultural dynamics that determine uptake, equity and measurable progress against the SDG targets. It was also noted that the current framework does not fully capture the breadth of social science insights — such as understanding and measuring shifts in mindsets — which could be an important consideration for a post-2030 agenda. In addition, there has been limited attention to the challenge of non-commercial or non-bankable projects, such as phasing out legacy technologies and infrastructures (e.g., fossil fuels) that have contributed to existing problems.

"Not all SDGs require extensive scientific input to be achieved…some goals demand more research and innovation than others."

"Global sustainable development isn't solely about technical solutions; it also encompasses people's rights to freedom of expression, independence, and critical thinking beyond algorithms."

"Technological advancements give us opportunities to better understand human behaviour. The next challenge is influencing that behaviour, to use technology for good, and encourage more sustainable choices and actions."

Insight 11:

Accelerating SDG momentum in periods of uncertainty

Across the interviews it was asserted that SDG progress is particularly vulnerable during periods of uncertainty. For example, the social instability caused by COVID-19 delayed progress across several of the global goals. It was also highlighted uncertainty around shifting political priorities, economic disruptions and military conflicts can also stall SDG progress and weaken national SDG aligned commitments. For STI this can result in attention and resources shifting away from certain research areas, leading to potentially reducing public funding and hindering long term scientific progress. Additionally, these social, political and economic pressures were thought to pose a threat to the multilateral process at the United Nations that are required to drive the global SDG agenda.

There was also recognition that individual countries are facing significant structural challenges that will impact economic development, environment, and social health. For example, aging populations, increased natural disasters and economies reliant on traditional industries. It was thought these challenges result in a general reluctance to embrace change within society and policy makers and can limit the momentum needed to drive innovation and long-term transformation. It was thought this poses a threat to the SDG agenda beyond 2030.

"The political romanticism that shaped our activities in the 1990s and 2000s, especially within the UN over the last 20 years, no longer exists. This is evident not only globally but also regionally."

"To be honest and realistic, this shift poses a threat. However, the strength of the global SDG framework means progress will continue. Unity is strength. While geopolitics and trade wars may slow progress, they will not stop it entirely."

"If the prevailing approach remains 'drill, baby, drill,' then discussing the SDG agenda beyond 2030 becomes meaningless."

For STI specifically, global fragmentation caused by such uncertainties could potentially limit the ability for STI to drive progress as SDG implementation becomes fragmented. Historically, science and technology has been able to transcend political tensions and continue to foster collaborations between countries that drive societal progress. Yet, interviews reflected concerns that today's complex geopolitical environment could directly impact scientific cooperation and threaten the exchange of data and technology. Research collaborations were highlighted as vital for reinforcing the broader multilateral system at the UN level, with SDG progress relying on the continued engagement and leadership of key global players who produce and fund the majority of research output. Additionally, it was noted that the research landscape is evolving, with contributions from the Global South growing, particularly in areas aligned with the SDGs. Further data and statistics were identified as essential for understanding these shifting dynamics.

Furthermore, legal research and rulings by the International Court of Justice highlight that countries have a responsibility under customary international law to avoid causing significant harm to natural systems and to others. Integrating these legal insights can help ensure that the perspectives of all stakeholders are considered alongside those in positions of power.

"When one country sneezes, the world can catch a cold. We must not compromise multilateralism, as it forms the foundation of collaboration."

"The SDGs were a shared, straightforward objective embraced by all, yet today many countries are erecting barriers to research collaboration."

"When one country labels another as an enemy, it deeply impacts scientific cooperation and can lead us to a dead end."

"Research has become much more diverse, but this progress is often underrecognized, especially the rapid development occurring in the Global South — a fact that many researchers are unaware of. This recognition is crucial."

Insight 12:

Talent development: the need to increase SDG related capabilities

Another common theme to emerge from the interviews was around the role of education to accelerate SDG related progress. Described as *"talent development"* the interviews identified many examples of how education at both school and higher education provided a way to close the gap between STI provided solutions and the wider public's support and adoption of technology. For example, at the request of industry, universities are being tasked to create new courses and master's programs aimed at cultivating better understanding and skills around sustainable development. These skills were seen as essential in areas such as the energy transition which requires not only technology solutions but a skilled workforce capable of deploying the technology. Opportunities of training of transdisciplinary communication should be provided.

"We can't focus solely on developing new technologies without recognising that the country may lack the grid capacity and the trained workforce needed to install them."

"Our efforts aim to accelerate technological innovation, build a competitive climate technology ecosystem, and develop a skilled workforce capable of leading the transition to a sustainable low-carbon economy."

While education was seen as a priority, many also made it clear that improving access to education is critical for long term sustainability and empowerment. For example, with the AI revolution, multiple interviews expressed the need to develop women's leadership and skills in technology. There was a suggestion to create learning centres to provide training on emerging technologies and sustainability practices, particularly for youth in the Global South. The focus of such efforts would focus on building capacity in areas such as data science, renewable energy technologies and sustainable agriculture.

"We need to expand digital and STEM education for women to enhance career opportunities by leveraging their strengths, such as communication skills and emotional intelligence, which are especially valuable in the AI era."

Insight 13:

Mindsets matter: the role of culture and misinformation in shaping STI futures

As highlighted in Insight 5, public trust and support are critical drivers of STI. However, a key challenge identified in the interviews is the way science and technology are communicated to the public. Interviewees noted that new technologies are often introduced without clear explanations of their purpose, stakeholders, or long-term impact. Combined with media environments that can distort public discourse, this lack of clarity can erode support for STI and slow the adoption of solutions essential to sustainable development. Additionally, political pushback mobilized through misinformation campaigns against the perceived social dimensions of the SDGs — often labelled as *"woke culture"* — was seen as a factor undermining broader progress. Regional differences in public trust were also noted, and greater public participation in science was viewed to build shared ownership of the SDG agenda.

"It has never been clearly communicated to every household that they need to change their current heating systems, nor has the government effectively explained to the public why we are pursuing the SDGs or that we face a global environmental crisis."

"We must provide citizens with balanced information about both the opportunities for a brighter future and the risks of a darker one, emphasizing the importance of making informed, wise decisions about the use of science and technology."

Interviewees emphasized that progress on the SDGs depends not only on innovation but also on public understanding of their own impact — recognizing how individual choices influence broader outcomes. This underscores the vital role of culture and societal values in shaping change. Many SDG targets require changes to long-standing cultural practices, yet STI initiatives often overlook these crucial cultural aspects. The interviews emphasized that a fundamental mindset shift is needed: science and technology should be viewed not as distant or abstract concepts, but as practical tools for addressing real-world challenges. While some technologies hold great promise, not all are necessary, and many carry their own environmental impacts. Without cultural openness and meaningful public engagement, even the most promising innovations risk being misunderstood, resisted, or unused — ultimately hindering progress toward the SDGs.

"The mindset of people must be adjusted to better understand their global impact. For example, recognizing that while your mobile phone battery is sourced from elsewhere, this still has consequences for you in the long term."

"It can be challenging to explain to people why they should change practices passed down by their ancestors."

"If you try to introduce transformation or innovation to a community in ways that disrupt its cultural values, you may do more harm than good."

Post-2030 agenda

Consolidation and prioritizing: increasing measurement capabilities and understanding regional capabilities

The interviews highlighted that any post-2030 agenda would need stronger mechanisms to measure, quantify, and track progress. While the SDGs are recognized as indivisible and a sectoral approach is not desirable, some interviewees suggested that prioritizing goals with strong synergies could help clarify focus, enhance accountability, and enable more meaningful measurement and outcomes. Goals such as SDG 3 (Good Health), SDG 4 (Quality Education), and SDG 5 (Gender Equality) were mentioned as potential areas to emphasize, not to replace other targets, but to leverage synergies across the broader framework.

"In the post-2030 framework, the international committee may need to adopt a more focused approach rather than trying to address all global challenges at once. Prioritizing the most urgent and actionable issues that require immediate global cooperation would be more effective."

"Women make up half the population, yet equality remains far from achieved without intervention. It is truly time to take action and demonstrate real progress."

For STI specifically, there was recognition that while SDGs are important, a critical multi-criteria evaluation of achievements and challenges is necessary. Suggestions were made to focus on quantifying and undertaking qualitative research to assess the most efficient, effective, legitimate and just domains for science and technology's contribution to the SDGs. Also, better understanding and quantifying regional capabilities and readiness to address the SDGs was seen to be important in the post-2030 agenda.

"Society needs to be more rigorous in distinguishing areas where progress is being made from those where it is lacking."

"We must find ways to support and elevate champions of success while clearly identifying and addressing areas that require improvement."

Renewed focus on inter- and trans-disciplinary research

There was broad recognition that any post-2030 agenda would benefit from stronger integration of inter- and transdisciplinary perspectives within future STI contributions. Not all SDGs require purely technological solutions, nor do they always rely on market-based approaches. Instead, combining insights from natural sciences, social sciences, humanities, and practice-based knowledge was seen as critical for understanding and influencing human behaviors within their cultural contexts, while building public trust in science. Interviewees suggested that a post-2030 agenda could prioritize initiatives that enhance science literacy, combat misinformation, and foster long-term mindset shifts — particularly in the Global South — to support sustainable development more effectively.

"We need to incorporate the social dimension as we advance the SDGs, addressing a gap between past efforts and what is required moving forward."

Research collaboration to help strengthen multilateralism

To better leverage STI contributions there was consensus that a focus on interdisciplinary and mutually respectful research collaboration must remain in any post-2030 agenda. Given the current uncertainties in the world, there are expectations that each country may take an increasingly fragmented approach to SDG implementation. It was recognized that the UN's role in helping to stimulate multilateral dialogues and sharing of approaches may also be threatened. It was suggested that research collaborations and sharing of resources and information may help to strengthen current multilateral mechanisms and drive SDG progress.

"Multilateral collaboration is fundamental to global sustainable development, and with just five years remaining, we cannot achieve the SDGs by working in isolation within Europe alone."

Maintaining a focus on equity to drive progress

The interviews also highlighted that while it's essential to acknowledge the historical injustices and structural inequalities continue to shape our world, the post-2030 agenda calls for a continued shared commitment to move forward — together. It was thought that without such acknowledgement, polarization will continue to undermine progress. Instead, everyone needs to play their part, from the Global South to the Global North, with mutual accountability and a willingness to build a more just and sustainable future for all. For STI specifically enhancing science literacy, strengthening educational systems and continuing to fight misinformation was all deemed essential in a post-2030 framework. Additional, recognition of the need to better leverage information networks and communication channels will help to build public SDG awareness and support, while helping to foster a needed change in mindset.

"However you define the boundary between injustice and justice in history, we know it will never be perfect. Instead, we should acknowledge the past and focus on moving forward toward a better future."

Evolving the agenda for a changing world

Finally, the SDG framework was widely seen in all interviews as being a valuable tool to enhancing global progress towards addressing increasingly urgent challenges. There was wide acknowledgement that progress has been made, and to consolidate such successes, the framework should continue to evolve post-2030. It was suggested that the post-2030 framework should instead align to a 2050 deadline and be considered as a phased approach. Phase one, the initial 15-year period, has been considered to be focused on target setting, raising awareness and global alignment. Phase two, was thought to help focus attention on implementation, while continuing to monitor and track progress. The suggestion to evolve the SDG framework should not be interpreted as a delay but rather as a commitment to accelerating and intensifying implementation efforts building on the latest scientific findings.

To better leverage STI, it was also suggested the post-2030 framework could introduce boundaries and standards for sustainability. Given that many environmental boundaries have been exceeded and human rights challenges persist, rapid transformative action is required. Introducing newer scientific concepts, such as safe and just boundaries, could stimulate and help communicate the ambient standards and transformative action needed for the SDG agenda.

Recommendations

Consolidate and move forward towards 2050

The SDG framework remains the most comprehensive and unifying roadmap for tackling the critical challenges facing our societies. It has successfully aligned global efforts and provided a common language for progress. Now, as we approach 2030, it is time to consolidate the gains made and transition into a second phase — one that looks beyond 2030 with renewed focus, ambition, and emphasis on collaboration. Every country has a role to play by committing to the goals, leveraging its unique strengths, and contributing to the shared pool of knowledge and resources.

Science has shown us — most clearly during the COVID-19 pandemic — that we can achieve the unimaginable when we work together. But progress cannot happen without interdisciplinarity, trust, collaboration, and public engagement. To move forward, the SDG agenda should continue its efforts to raise awareness and understanding of sustainable development with a renewed objective to change the mindset of political leaders and citizens alike — from passive observers to active co-creators and advocates.

Turning ambition into action by leveraging STI

The implementation of the SDGs requires more than commitment — it demands robust governance and sustained investment, particularly in science, technology, and innovation (STI). Governments must continue to advance the SDG agenda as an indivisible framework, recognizing that while some areas may require focused attention, progress depends on coordinated, cross-sectoral action across all goals.

To drive real progress, there was a re-iteration of the need for significant and deliberate expansion of funding for SDG-aligned research. This was thought to need support by governance structures that integrate the SDGs into national STI strategies, aligning global goals with local priorities. Building such an ecosystem — where research, innovation, and policy are connected and mutually reinforcing — is critical for turning ambition into action.

Specific STI recommendations for the post-2030 agenda

To better leverage STI contributions the following recommendations have been derived from the interviews:

Increase visibility and recognition of SDG-related research

Tracking the contributions of science, technology, and innovation (STI) to the SDGs must remain a priority in any post-2030 framework. Building on early efforts — such as SDG labelling within academic communities — there is a need to ensure that interdisciplinary research, from initial design to scalable solutions, continues to align with SDG goals. Going forward, researchers across disciplines and regions should be encouraged to design studies with explicit SDG impact in mind. At the institutional level, universities and research organizations should adopt standardized reporting templates to document their SDG-related contributions, supporting national and global multilateral accountability. These efforts will not only enhance the visibility of SDG-focused research but also ensure greater recognition of work and contributions from all regions on global sustainable development.

Increase investment in sustainability-focused R&D

In the post-2030 agenda, the STI Forum's initial recommendations should be strengthened to significantly increase funding for SDG-aligned research and innovation. This includes prioritizing investment in critical areas such as climate technology, artificial intelligence, sustainability governance, social sciences, as well as biotechnology to enable mission driven and long-term interdisciplinary/transdisciplinary research addressing complex sustainability challenges. Support should also be directed toward fostering the commercialization of sustainable technologies through stronger partnerships and dialogue between academia and industry. Efforts to scale up best practices — particularly successful academic-industry collaborations observed in specific countries and regions — should be leveraged to guide future action and enhance impact.

Strengthen education and skills for sustainable innovation

Increased support and investment are needed in education and training programs — not only to develop talent in sustainability-focused science and technology, but also to promote lifelong learning that helps the public understand key issues and navigate information critically. Academic institutions have a vital role to play through both education and collaborative initiatives. Efforts should prioritize capacity building in low-resource settings by leveraging existing infrastructure to create a more inclusive and globally representative innovation ecosystem. In addition, the transformative potential of environmentally friendly AI and digital tools should be harnessed to accelerate SDG progress, ensuring equitable access and use across regions, genders, and social groups through targeted capacity-building efforts and inclusive project design.

Build and deepen international partnerships

Any post-2030 framework must continue to prioritize and strengthen cross-border scientific and research collaboration to drive SDG-related innovation. These collaborations should focus on establishing robust international research infrastructure and enabling the global sharing of data and resources to accelerate progress. At the same time, such efforts must be responsive to evolving social, economic, and environmental conditions. To this end, adaptive and forward-looking STI frameworks should be developed to incentivize and sustain international collaboration. The STI community can play a key role by supporting knowledge-sharing networks, joint research programs, and inclusive global platforms that foster cooperation and innovation at scale.

Empower trust in science and mind change

While STI is essential to accelerating SDG progress, it must be complemented by efforts to build trust in the scientific process and its outcomes. In a post-2030 agenda, advocacy for science should be prioritized — both among policymakers and the public — to strengthen support for emerging technologies. Enhancing scientific literacy should be embedded within the framework, alongside greater integration of the social sciences to understand how technologies affect local cultures, communities, and institutions. Establishing inclusive feedback mechanisms to incorporate these insights into technology design and deployment is critical for ensuring that innovation remains socially relevant, responsible, and trusted.